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| APPLICATION NO.               | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|---------------------|------------------|
| 10/648,360                    | 08/27/2003  | Shuuji Matsuura      | 1248-0665P          | 3433             |
| 2292                          | 7590        | 10/26/2006           | EXAMINER            |                  |
| BIRCH STEWART KOLASCH & BIRCH |             |                      | TRAN, KHAI          |                  |
| PO BOX 747                    |             |                      | ART UNIT            |                  |
| FALLS CHURCH, VA 22040-0747   |             |                      | PAPER NUMBER        |                  |
|                               |             |                      | 2611                |                  |

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/648,360

Applicant(s)

MATSUURA, SHUUJI

Examiner

KHAI TRAN

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/27/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This application does not contain an abstract (as illustrated in the Preliminary amendment filed 8/27/2003) of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required; and there is no amendment on the specification.

### ***Drawings***

2. Figure 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 6-8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al (US 2002/056134 A1) in view of Currivan et al (US 2003/0031198 A1).

Regarding claim 1, Abe et al disclose a tuner for use in a cable modem as shown in Figure 1, comprising: a reception processing section (a reception system block 100) for receiving a signal transmitted from a communication line (CATV); a return path circuit for transmitting to the communication line a signal transmitted from a signal processing section (see Figure 1 showing the return path circuit comprising from HPF 101, AGC 102 ... AMP 110, IF OUTPUT 122, LPF 204, a transmission processing section 206, LPF 201). Abe et al disclose that the cable modem (see [0009]) includes the tuner including an upstream signal and a downstream signal sharing a single coaxial cable. The upstream signal (performing a modulation) and downstream signal (performing a demodulation) are thus frequency-separated by a diplexer built in the tuner of the cable modem. In the diplexer, it is needed isolation, to be ensured to prevent interference, between the upstream signal and downstream signal. Abe et al fail to explicitly disclose the return path circuit including a return path amplification circuit

for performing power amplification of a signal transmitted from the signal processing section.

Currivan et al disclose the return path circuit including a return path amplification circuit as shown in Figure 2 comprising an amplifier 230 for performing power amplification of a signal transmitted from the signal processing section. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the power amplifier in the transmission section prior to transmitting signal as taught Currivan et al into the teachings of Abe et al. The motivation would enable the amplifier for the signal of the transmission section a specified level.

Regarding claim 2, Abe et al disclose the return path circuit comprising a filter for removing noise included in a signal transmitted from the signal processing section (a LPF 204, an HPF 202 and a LPF 201).

Regarding claim 3, Abe et al disclose wherein separate routes supply power to the return path amplification circuit and power to component other than the return path amplification circuit in the tuner (see [0027]).

Regarding claim 4, Abe et al disclose wherein circuits constituting the reception processing section and the return path circuit are provided on one surface of a board (see [0077] and Figure 6).

Regarding claim 6, Abe et al disclose wherein the return path circuit is surrounded by a partition member having electrical and electromagnetic shield effect (see [0025]).

Regarding claim 7, Abe et al further disclose wherein the reception processing section includes a PLL circuit (115); and DC-DC converter (300) is surrounded by partition member having electrical and electromagnetic shielding effect (see Figure 6).

Regarding claim 8, Abe et al disclose wherein the reception processing section performs reception processing in accordance with a single conversion system for converting a frequency of a received signal into an intermediate frequency (a frequency converters 107, 113), and includes an intermediate frequency AGC amplification circuit (AGC control circuit 121) for amplifying an intermediate frequency signal in an accordance with an IF AGC signal transmitted from the signal processing section (see [0049] to [0051]).

Claim 9 is similar to claim 1. Therefore, claim 9 is rejected under a similar rationale.

### ***Claim Rejections - 35 USC § 103***

6. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al (US 2002/056134 A1) in view of Currivan et al (US 2003/0031198 A1) as applied to claim 1 above, and further in view of Hoskins et al (US 2003/0106067 A1).

Regarding claim 5, Abe et al and Currivan et al fail to explicitly disclose wherein the return path circuit includes a balanced-to-unbalanced conversion transformer for converting a balanced output from the return path amplification circuit to an unbalanced output and a matching inductor which is provided on an output side of the balanced-to-unbalanced conversion transformer.

Hoskins et al disclose a cable modem comprising various OSI layer 1 (or physical layer) devices and/or combinations thereof such as, but not limited to, repeaters, amplifiers, attenuators, media converters, modulators, demodulators, baluns, electrical-optical converters, etc. (In general, a balun or balanced/unbalanced converter is an impedance matching device used to connect balanced cabling to unbalanced cabling. Also, circuit switches generally function as layer one devices such as repeaters once the circuit is connected) see [0072]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the balanced/unbalanced converter as taught by Hoskins et al into the teachings of Abe et al and Currivan et al for performing a matching impedance of the balanced cabling and unbalanced cabling.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

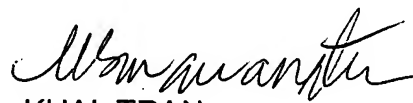
Wu (U.S. Pat. 6,698,022) discloses a timestamp-based timing recovery for cable modem media access controller.

Kinemura (U.S. Pat. 6,931,659) discloses a cable modem having a wireless communication function.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KHAI TRAN  
Primary Examiner  
Art Unit 2611

KT  
October 25, 2006